

Date: Fri, 11 Feb 94 04:30:59 PST
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #25
To: Ham-Space

Ham-Space Digest Fri, 11 Feb 94 Volume 94 : Issue 25

Today's Topics:

 Daily IPS Report - 11 Feb 94
 Inexpensive GPS
 SAREX Keps for Feb 8
 STS Downlink
 Two-Line Orbital Element Set: Space Shuttle
 Weekly IPS Report - 11 Feb 94

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 10 Feb 94 23:29:33 GMT
From: munnari.oz.au!newshost.anu.edu.au!sserve!usage!metro!news.ci.com.au!eram!
dave@network.ucsd.edu
Subject: Daily IPS Report - 11 Feb 94
To: ham-space@ucsd.edu

IPS RADIO AND SPACE SERVICES AUSTRALIA
Daily Solar And Geophysical Report
Issued at 2330 UT 10 February 1994
Summary for 10 February and Forecast up to 13 February
IPS Warning 03 was issued on 03 Feb and expires today.

1A. SOLAR SUMMARY
Activity: low

Flares: none.

Observed 10.7 cm flux/Equivalent Sunspot Number : 094/040

1B. SOLAR FORECAST

	11 February	12 February	13 February
Activity	Low	Low to moderate	Low to moderate
Fadeouts	None expected	None expected	None expected

Forecast 10.7 cm flux/Equivalent Sunspot Number : 090/034

1C. SOLAR COMMENT

Previously flaring region (M class) has yet to appear.

2A. MAGNETIC SUMMARY

Geomagnetic field at Learmonth : ???

Estimated Indices : A	K	Observed A Index 9 February
Learmonth	21 3333 5442	
Fredericksburg	27	32
Planetary	30	34

2B. MAGNETIC FORECAST

DATE	Ap	CONDITIONS
11 Feb	20	Active.
12 Feb	20	Active.
13 Feb	20	Active.

2C. MAGNETIC COMMENT

Magnetic activity did not decline as expected, further active periods are now expected. Another recurrent disturbance is expected Feb 14-15.

3A. GLOBAL HF PROPAGATION SUMMARY

	LATITUDE BAND		
DATE	LOW	MIDDLE	HIGH
10 Feb	fair-normal	fair-normal	poor-fair

PCA Event : None.

3B. GLOBAL HF PROPAGATION FORECAST

	LATITUDE BAND		
DATE	LOW	MIDDLE	HIGH
11 Feb	normal	fair	poor
12 Feb	normal	fair	poor
13 Feb	normal	fair	poor

3C. GLOBAL HF PROPAGATION COMMENT

Propagation conditions are now expected to remain fair for mid lats and fair-poor at high lats until Feb 16.

4A. AUSTRALIAN REGION IONOSPHERIC SUMMARY

MUFs at Sydney were about 15% below predicted monthly values

T index: -4

4B. AUSTRALIAN REGION IONOSPHERIC FORECAST

DATE	T-index	MUFs
11 Feb	10	10 to 15% below predicted monthly values.
12 Feb	20	About 10% below predicted monthly values.
13 Feb	20	About 10% below predicted monthly values.

Predicted Monthly T Index for February is 30.

4C. AUSTRALIAN REGION COMMENT

Ionosphere did not recover as expected yesterday, probably due to continuing magnetic activity. Another disturbed period is expected Feb 14-16.

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Dave Horsfall (VK2KFU)	VK2KFU @ VK20P.NSW.AUS.OC	PGP 2.3
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Date: 3 Feb 1994 21:56:10 -0800

From: ftpbox!mothost!mdisea!mddvan!vanbc.wimsey.com!vanbc.wimsey.com!not-for-mail@uunet.uu.net

Subject: Inexpensive GPS

To: ham-space@ucsd.edu

If you call West Marine at any of their Seattle locations you can probably get one of two "brand" name handheld gps, multi-channel units for \$449.00. These give location, elevation, direction and speed of travel, and bounce quite well. I really don't think you will do much better than that, since the OEM units are priced to discourage amateur players like us. They offer less, need more external support (antennas, software and a laptop or better), but cost more.

Good luck / Mark

Date: Mon, 7 Feb 1994 19:51:06 -0700

From: nntp.ucsb.edu!library.ucla.edu!europa.eng.gtefsd.com!howland.reston.ans.net!math.ohio-state.edu!cyber2.cyberstore.ca!nntp.cs.ubc.ca!alberta!ve6mgs!usenet@network.ucsd.edu

Subject: SAREX Keps for Feb 8
To: ham-space@ucsd.edu

SB SAREX @ AMSAT \$STS-60.009
SAREX Keps for Feb. 8

The official SAREX element set for today will be GSFC-009. This element set was generated by Ron Parise, WA4SIR of the Goddard Space Flight Center. Gil Carman, WA5NOM reports that the predictions using GSFC-009 differed from GSFC-005 by approximately 11 seconds.

STS-60

```
1 22977U 94006A   94 38.25534638 0.00000289 00000-0 64918-5 0   90
2 22977   56.9888 199.2675 0009131 272.9026  87.0997 15.72311412   607
```

Satellite: STS-60

Catalog number: 22977

Epoch time: 94038.25534638 (07 FEB 94 06:07:41.93 UTC)

Element set: GSFC-009

Inclination: 56.9888 deg

RA of node: 199.2675 deg Space Shuttle Flight STS-60

Eccentricity: 0.0009131 Keplerian Elements

Arg of perigee: 272.9026 deg

Mean anomaly: 87.0997 deg

Mean motion: 15.72311412 rev/day Semi-major Axis: 6730.4250 Km

Decay rate: 0.29E-05 rev/day*2 Apogee Alt: 358.18 Km

Epoch rev: 60 Perigee Alt: 345.89 Km

NOTE - This element set is based on NORAD element set # 009.

The spacecraft has been propagated to the next ascending node, and the orbit number has been adjusted to bring it into agreement with the NASA numbering convention.

Submitted by Frank H. Bauer, KA3HDO, for the SAREX Working Group

/EX

Date: 11 Feb 94 00:10:59 GMT

From: ogicse!psgrain!usenet@network.ucsd.edu

Subject: STS Downlink

To: ham-space@ucsd.edu

Does anyone happen to have the actual unified S-Band downlink or TDRS freqs from the Shuttle?

Thanks!

dwetzel@rain.com

Date: Thu, 10 Feb 1994 22:31:16 GMT
From: pagesat.net!olivea!charnel!yeshua.marcam.com!zip.eecs.umich.edu!destroyer!
sol.ctr.columbia.edu!howland.reston.ans.net!paladin.american.edu!zombie.ncsc.mil!
blackbird.afit.af.@@news.cerf.net
Subject: Two-Line Orbital Element Set: Space Shuttle
To: ham-space@ucsd.edu

The most current orbital elements from the NORAD two-line element sets are carried on the Celestial BBS, (513) *253-9767*, and are updated daily (when possible). Documentation and tracking software are also available on this system. As a service to the satellite user community, the most current elements for the current shuttle mission are provided below. The Celestial BBS may be accessed 24 hours/day at 300, 1200, 2400, 4800, or 9600 bps using 8 data bits, 1 stop bit, no parity.

Element sets (also updated daily), shuttle elements, and some documentation and software are also available via anonymous ftp from archive.afit.af.mil (129.92.1.66) in the directory pub/space.

STS 60

1	22977U	94006A	94041.25000000	.000000417	000000-0	75807-5	0	154
2	22977	56.9879	185.8034	0006879	304.3677	92.0407	15.71677067	1068

1994006J

1	22998U	94006J	94040.80785293	-.000000585	000000-0	000000+0	0	10
2	22998	56.9859	187.7896	0008776	293.9389	119.8855	15.72168613	19

--

Dr TS Kelso
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Assistant Professor of Space Operations
Air Force Institute of Technology

Date: 10 Feb 94 23:30:14 GMT
From: munnari.oz.au!newshost.anu.edu.au!sserve!usage!metro!news.ci.com.au!eram!
dave@network.ucsd.edu
Subject: Weekly IPS Report - 11 Feb 94
To: ham-space@ucsd.edu

4 FEBRUARY - 10 FEBRUARY 1994

Issue No 06

Date of issue: 11 February, 1994

INDICES:

Date	04	05	06	07	08	09	10
10cm	095	093	095	096	095	101	094
A	10	21	39	45	42	32 (27)
T	43	50	-4	-31	-24	21	-4

SUMMARY OF ACTIVITY

February 4

Solar activity was very low.

The geomagnetic field at Learmonth (WA) was mostly quiet with unsettled to active conditions 12-21UT.

Ionospheric F2 critical frequencies at Sydney were near predicted monthly values to 15% enhanced during local night.

February 5

Solar activity was very low.

The geomagnetic field at Learmonth (WA) was mostly quiet to unsettled.

Ionospheric F2 critical frequencies at Sydney were near predicted monthly values to 30% enhanced during local night.

February 6

Solar activity was very low.

The geomagnetic field at Learmonth (WA) was at storm levels.

Ionospheric F2 critical frequencies at Sydney were about 10-20% below predicted monthly values

February 7

Solar activity was very low.

The geomagnetic field at Learmonth (WA) was storm levels during local night.

Ionospheric F2 critical frequencies at Sydney were 10 to 30% below predicted monthly values.

.SK

February 8

Solar activity was very low.

The geomagnetic field at Learmonth (WA) was at active to minor storm levels.

Ionospheric F2 critical frequencies at Sydney were 10 to 30% below predicted monthly values.

February 9

Solar activity was very low.

The geomagnetic field at Learmonth (WA) was at active to minor storm levels observed during local night.

Ionospheric F2 critical frequencies at Sydney were depressed 20-30% 00-02UT then recovering to near predicted values.

February 10

Solar activity was low.

The geomagnetic field at Learmonth (WA) was at active to minor storm levels during local night.

Ionospheric F2 critical frequencies at Sydney were about 15% below predicted monthly values.

Comment:

Strong magnetic storm activity was observed during Feb 6-8. This activity arrived a day earlier than expected and was stronger than expected. Storm was due to a coronal hole.

FORECAST FOR THE NEXT WEEK (11 - 17 FEBRUARY)

SOLAR: low to moderate

GEOMAGNETIC: active due to coronal hole.

IONOSPHERIC: degraded HF communications expected all week. MUFs are expected to be 10-15% depressed on IPS predicted monthly values.

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End of Ham-Space Digest V94 #25
